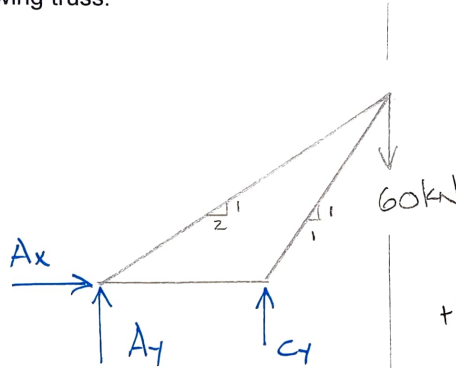
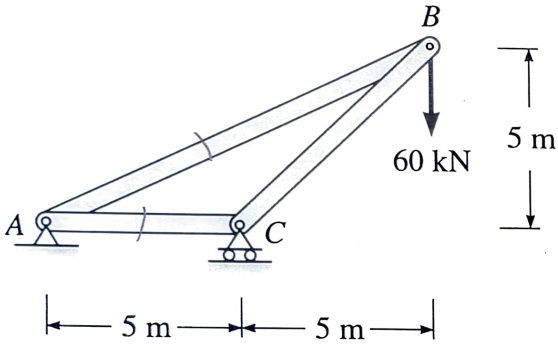


Example 3b-1. Determine all the forces in the following truss.



$$\begin{aligned} \sum M_A &= 0 \\ &= C_y(5\text{m}) - 60\text{kN}(10\text{m}) \end{aligned}$$

$$\underline{\underline{C_y = 120\text{kN}}}$$

$$+\uparrow \sum F_y = 0 = A_y + C_y - 60\text{kN}$$

$$\underline{\underline{A_y = -60\text{kN}}}$$

$$+\rightarrow \sum F_x = 0 = A_x$$

JOINT A

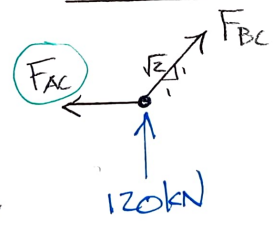
$$+\uparrow \sum F_y = 0 = \frac{1}{\sqrt{5}} F_{AB} - 60\text{kN}$$

$$\underline{\underline{F_{AB} = 134.2\text{kN}}}$$

$$+\rightarrow \sum F_x = 0 = F_{AC} + \frac{2}{\sqrt{5}} F_{AB}$$

$$\underline{\underline{F_{AC} = -120\text{kN}}}$$

JOINT C



$$+\uparrow \sum F_y = 0 = \frac{1}{\sqrt{2}} F_{BC} + 120\text{kN}$$

$$\underline{\underline{F_{BC} = -169.7\text{kN}}}$$